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ABSTRACT

A study gauged the effects of peer tutoring on the reading skills of first graders. Subjects were 250 children divided into eight experimental and four control classrooms in a school district in Utah. Teachers were trained by researchers, bearing in mind five procedural principles: (1) appropriate modeling by the teacher, (2) extensive dialogue, (3) guided practice, (4) systematic mastery checking, and (5) systematic review. The program involved a series of "learning cycles" composed of exercises based on the content areas of sight words, letter sounds, blending, decoding, and oral reading. Students were paired according to achievement, highest with lowest and so on. Pair members tutored each other for half an activity and then reversed roles. Oral reading took place in several settings. Parental involvement was also encouraged. Tests given 8 months after the beginning of the program showed significantly higher levels of performance on early reading skills in the experimental group. This approach seems effective in helping teachers bring a large proportion of their students to the level of mastery. (JL)

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An Empirical Approach to Teaching Reading.

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An Empirical Approach to Teaching Reading

Introduction

During the past fifteen years the principal author has carried out extensive research within the field of reading. This research has resulted in the production of tutorial reading materials. Much of this material has been used in conjunction with cross-age tutoring programs where older pupils have tutored younger pupils. Data collected during evaluation studies of these programs has repeatedly shown that better than 80 percent of those children whose reading ability was below their chronological age at the beginning of the program were reading at or above their chronological age by its end. Typically the duration of these one-to-one tutoring programs was half an hour per day for a term.

Even though the benefits of cross-age tutoring have been demonstrated empirically, (e.g. Harrison 1975, Fitz-Gibbon 1975, Fitz-Gibbon and Reay 1982) very few schools make use of pupils as tutors. Cross-age tutoring is fraught with problems, including the difficulty of matching timetables, movement of pupils, and possible public resentment where older pupils are "missing" their lessons to tutor younger children. These problems are compounded if more than one school is to be involved.

In an attempt to circumvent these problems and to cater for those teachers who do not have access to the personnel necessary for the operation of a cross-age program, the authors decided to investigate the possibility of reorganizing the reading materials and procedures so that they could be used in a single classroom. The investigation was carried out with first grade pupils (aged six to seven). It is during first-grade that children in the area where the study would take place, begin to learn to read . As older pupils would not be involved, this project required that the six-year

olds alternately take on the roles of learner and tutor. All pupils experienced both roles regardless of their judged potential for academic achievement. The term chosen to describe this approach was Companion Study.

Thus the aim of the study was to determine if the same impressive gains in achievement which resulted from cross-age tutoring could be realized with peer-tutoring.

After being in operation for the period from September to May the performance of the experimental and control groups were compared. This comparison showed that, when measured on a criterion-referenced test and a standardized reading test those children who used the Companion Study approach showed significantly higher performance in reading skills than those who were in the control group. On the criterion test the experimental group scored significantly higher, 84% as opposed to 55% for the controls. On the standardized test the experimental groups score was twice that of the control's.

Method

The study was carried out in a school district in Utah, U.S.A. Eight first-grade (6-7) classrooms were included in the experimental group and four first-grade classrooms in the control group. The total number of children involved was 250.

Throughout the design and implementation of the materials and procedures five procedual principles were followed. These were:

1. appropriate modeling by the teacher.
2. extensive dialogue.
3. guided (and relevant) practice.
4. systematic mastery checking
5. systematic review.

The teachers were trained by the researchers in pupil management techniques and specific methods for making the best use of the materials, bearing in mind the five principles.

Immediately following training the teachers began to put the instructional program into operation. The major part of the program involved a series of "learning cycles". Each learning cycle was composed of several exercises. These exercises were based on the following five content areas.

Content Areas:

1. -Sight words. (phonetically irregular words)
2. -Letter sounds.
3. -Blending.
4. -Decoding.
5. -Oral reading.

The pace at which the exercises would be introduced was outlined by the researchers. However, teachers adopted the presentation timing to fit their own particular needs, whenever it proved necessary.

A typical day would involve the teacher attending to only one of the five activities outlined above.

Learning Cycle - An Example

It was expected that a typical learning cycle would be completed in one week. Each day in that week would include three activities:

1. Classwork - this activity would involve the teacher teaching the entire class. Activities would include:
   a. teaching three to seven sight words.
   b. teaching five letter sounds.
   c. teaching children to finger blends, ie. running finger between two sounds and gradually increasing speed until

the two sounds are combined into one sound.

d. working on decoding exercises, ie. sounding out words such as MAN so that the word is pronounced in one flowing sound and not M....A.....N. The aim of this exercise is for the pupil to encounter suitable practice in the blending skills they have been learning.

2. Companion Study - this activity involved children tutoring each other as follows:

a. Forming tutoring pairs:

Once the classword was completed the teacher divided the class into pairs. Initially the pairings were made as follows: pupils were ranked according to achievement. and the highest pupil paired with the lowest, the second from top was paired with second lowest and so on towards the middle of the list. As the year progressed the variance in the performance of the children diminished so teachers arranged the pairs according to other criteria e.g., child disposition, and tutoring behaviour of the children.

b. Tutoring activities:

For this activity the teacher assigned one member of the pair to act as tutor and the other to act as tutee for the first half of the activity. For the second half the roles would be reversed. In this way all children had the opportunity to be tutors regardless of their perceived ability. The children tutored each other using a "Companion Study" manual which contained exercises reviewing and extending the learning experiences of the

classwork activity.

c. Mastery checking:

While the children tutored each other, the teacher monitored each child to ensure that they had mastered the objectives of that particular day's activities. For those children who had not achieved mastery the teacher arranged for them to receive extra tuition either from the teacher, other children or from parents and other volunteers who had been trained in the use of the materials.

3. Oral Reading: Oral reading took place in several settings.

a. The children would read aloud to each other in their companion tutoring pairs. In this activity (and in activity 3c below) the pupils would encounter many questions about the material they had read. They were constantly encouraged to answer these questions aloud and if they could not answer to re-read the sentence in the story which would contain the answer.

b. Individual reading. Children were encouraged to read silently as soon as the teachers were certain that they had the necessary phonetic skills.

c. Reading aloud in groups of mixed ability.

During these sessions the teacher would also ask questions which would encourage consolidation.

The materials for these reading activities were specially written so that at no time did the children encounter words made up from blends that had not previously been introduced or sight words which they had not been taught.

At the conclusion of each learning cycle the teacher would send home a "share sheet", a "reading review sheet" and a story for the child to read with his or her parents.

Parental Involvement.

One of the subsidiary aims of this program was to involve parents closely in their children's reading development. To this end training sessions were held for parents in which they were introduced to the procedures and materials used throughout the study. They were given instruction in how to listen to their children read and how to help teach their children those aspects of reading which with they were having difficulty.

The "share sheets" were designed to cover those items which had been taught in the learning cycle their child had just completed. The aim of this material was to enable parents to check that their child had in fact mastered the contents of the learning cycle they had just completed, and also to give their child further practice.

The "reading review" contained exercises based on previously learned material which enabled parents to provide the opportunity for their children to systematically review their learning.

The stories which were sent home were to be read out loud to the parents. They were designed so that the child would encounter only those sight words and blends learned in class.

Results.

As the children involved were just beginning to learn to read, a post-test only design was used. Testing took place eight months after the beginning of the program. Tests used were the Woodcock Word Attack, and a criterion test to assess the level of phonetic skill reached by the pupils.

INSERT FIGURE 1 ABOUT HERE.

Fig. 1 Shows the results on the criterion referenced decoding test which consisted of unencountered phonetically regular nonsense words. The mean score for the experimental group was 84% and for the control group was 55%. Eighty-five percent of the experimental group scored above the 75th percentile compared with only twenty-five percent of the control group.

INSERT FIGURE 2 ABOUT HERE.

Fig. 2. Shows the results on the Woodcock Word Attack test. The mean score of pupils in the experimental group was 11 years 5 months with the average for the control group begin 8 years 7 months. These results were analyzed in terms of 'chronological age level' and 'above chronological age level.' The analysis showed that only 6% of the experimental group scored below their age level compared with 31% of the control group. Seventy-one percent of the experimental group scored above age level compared with thirty-one percent of the control group.

INSERT FIGURE 3 ABOUT HERE.

Fig 3. Shows the sex differences on the phonetic blending criterion test. There was a significant difference between the scores of boys and girls in the control group with girls scoring consistently higher. In the experimental group there was no significant difference between the scores of boys and girls.

Conclusion.

The degree to which the results of this study can be generalized is limited, due to the fact that it was carried out in only one school district with only seven classrooms being investigated. However, this does not prevent the results from being encouraged.

The experimental group showed a significantly higher level of performance on early reading skills than did the control group. The teachers were able to bring most pupils closer to the level of mastery, which Bloom (1981) sees as being the prime aim of education.

One interesting finding was the degree to which parents became involved in the program. Over 75% took an active part in completing work sent home - share sheets, review sheets and stories. Where children were experiencing difficulties the teachers provided the parents with full details of the problems and the areas on which to work to help overcome them.

The main aim of this study was to determine if it was possible to design materials and procedures which would allow the benefits of cross-age tutoring to be experienced in a same-age tutoring setting. By using the 'Companion Study' approach outlined above the teachers were able to bring a large proportion of their pupils to the level of mastery, suggesting that this aim is eminently achievable.

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Fitz-Gibbon, C.T., The Role Change Intervention: Unpublished Doctoral Dissertation, University of California at Los Angelos, 1975.

Fitz-Gibbon, C.T. and Reay, D.G., Peer Tutoring: Brightening up FL teaching in an urban comprehensive school, British Journal of Language Teaching, XX(1), Spring 1982, 39-46.

Harrison, G.V., Structured Tutoring, Research in Education, November 1972.

BLENDING.

Percentage of children scoring in the ranges 0-25, 26-50, 51-75, 76-100.

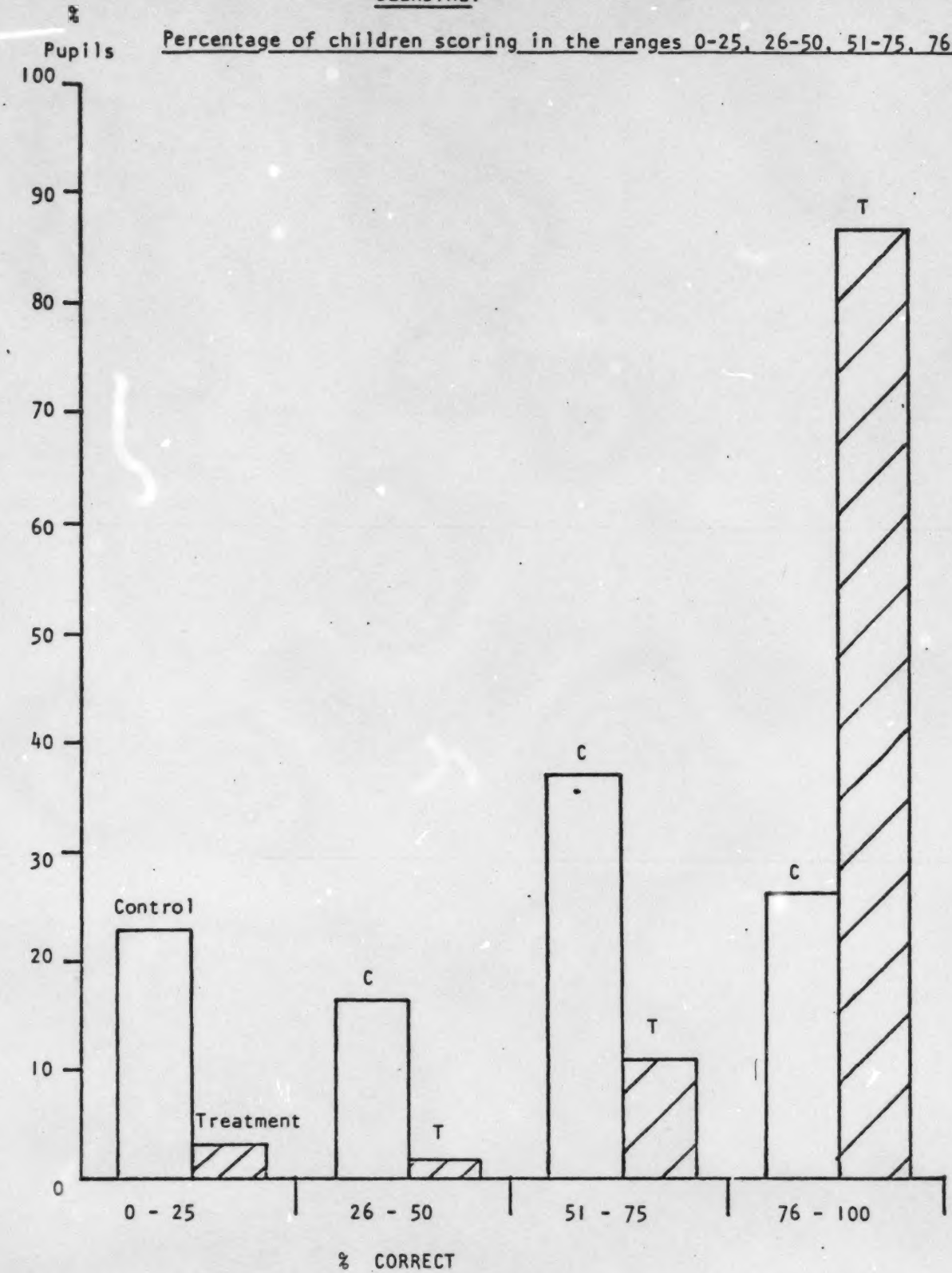

FIGURE 1.

WOODCOCK WORD ATTACK TEST.

MEAN READING AGE SCORES.

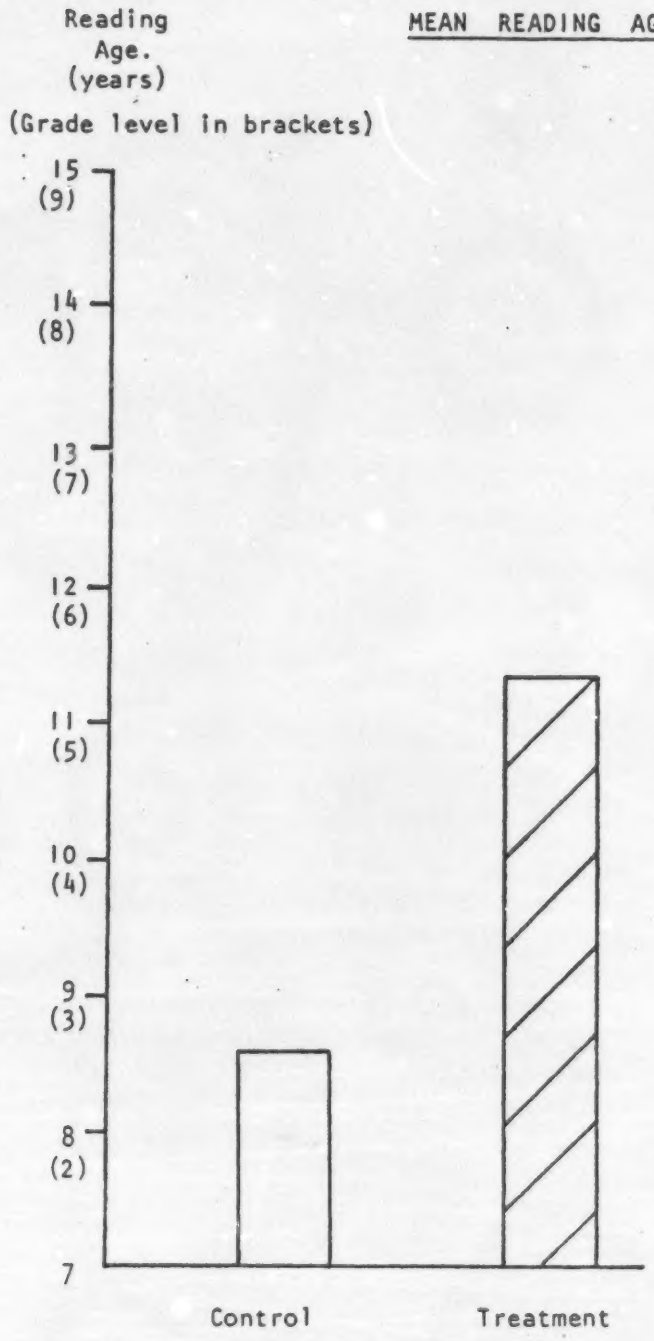

FIGURE 2.

PHONEMIC BLENDING EFFECTS BY SEX.

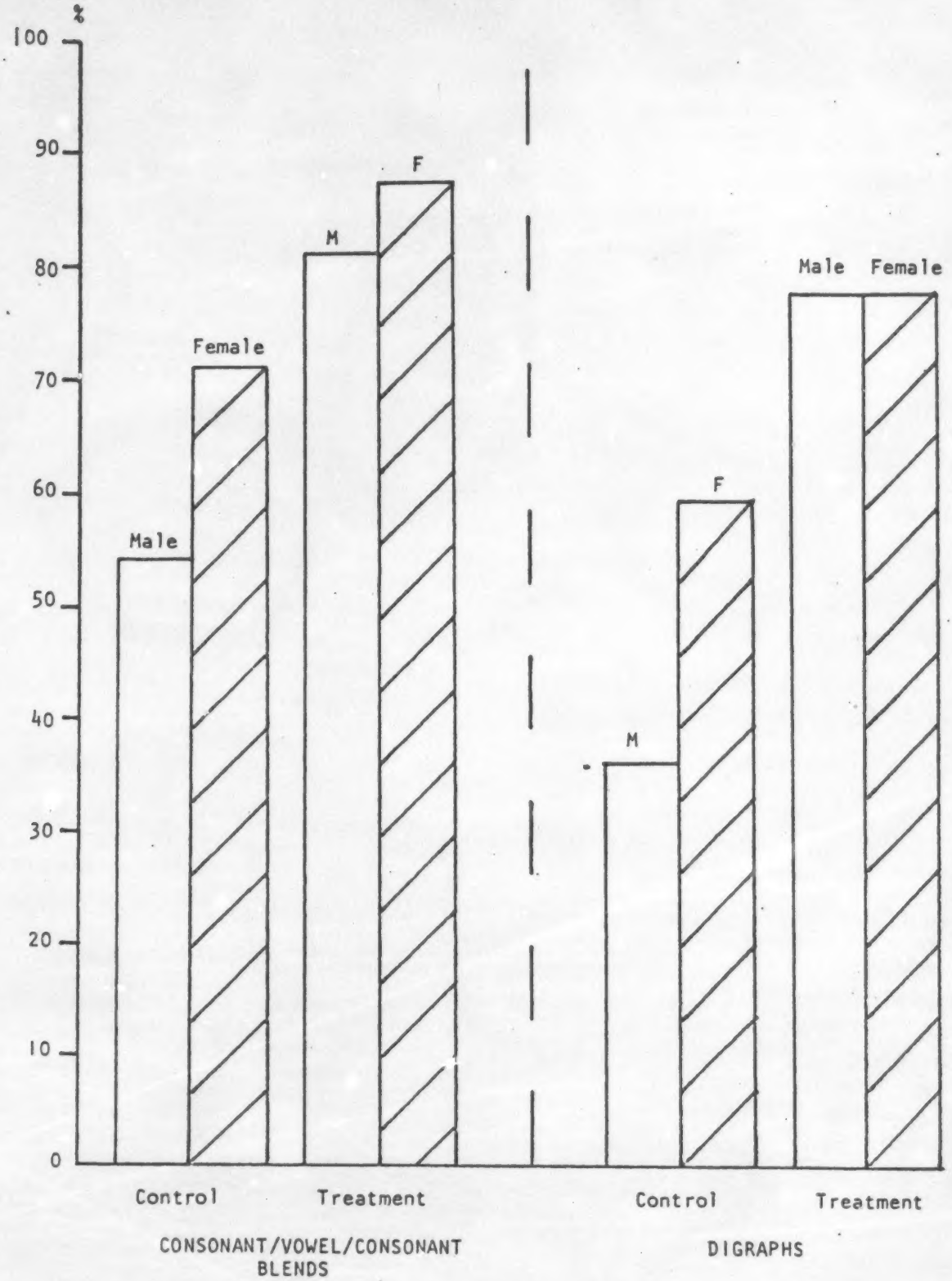

FIGURE 3.